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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,367	10/14/2003	Xianhai Chen	014116-84.00US	1893

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EXAMINER	
JOLLEY, KIRSTEN	

ART UNIT	PAPER NUMBER
1762	

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/686,367	CHEN ET AL.	
	Examiner	Art Unit	
	Kirsten C Jolley	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10/14/03.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: The blank serial number on page 2, line 14 of the specification should be filled in.

Appropriate correction is required.

Claim Objections

2. Claims 1-2 are objected to because of the following informalities:

In claim 1, line 4, the phrase "placing a collar fixture around on the glass substrate" is awkwardly worded. The Examiner suggests deleting the word "on."

In claim 1, line 10, the Examiner suggests replacing "into" with --onto-- since the pellicle is physically placed *on* the adhesive layer.

In claim 2, the acronym "PDLC" should be spelled out on its first use in the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryan (US 6,151,153) in view of Scheu et al. (US 4,024,835).

Bryan discloses a method of: providing a glass substrate; applying a PDLC-based sensor material on the substrate; applying an adhesive layer on the sensor material; and then laminating a pellicle onto the adhesive coated substrate (col. 8-9). Bryan lacks a teaching of applying the sensor material and adhesive layers by spin coating. The Examiner notes that it is well known that PDLC materials can be applied by coating as well as by lamination as a film. (It is noted that Harada et al. is cited for this teaching below.) Further, spin coating is a well known means for applying coatings. It would have been obvious for one having ordinary skill in the art to have applied the PDLC-based sensor material as well as the adhesive by spin coating with the expectation of equivalent results since spin coating is a well known means for coating, and one skilled in the art would expect similar results when one application method is substituted for another.

The prior art of Scheu et al. is cited for its teaching of a spin coating chuck for use in a spin coating process using where the substrate is non-circular. Scheu et al. teaches that its spin chuck is circular and has a recessed area (collar) for receiving the non-circular substrate because spinning a non-circular substrate without the chuck of the invention results in undesirable aerodynamic properties and a non-uniform coating. It would have been obvious to have used a spin chuck having a recessed area, or collar, around the substrate in the case of performing spin coating sensor material and adhesive in the process of Bryan (as discussed above) because Bryan's substrate is non-circular and a uniform coating is desired.

Additionally, it is noted that Scheu et al. teaches that, when using its spin chuck, some coating material flows into the gap between the spin chuck and the substrate (col. 2, lines 20-21). It would have been obvious, upon seeing this teaching, to have cleaned the edge of the coated substrate in the method of Bryan in view of Scheu et al. after coating because Bryan illustrates that the sensor material and adhesive are only desired on the top surfaces of the substrate, not on the sides.

As to claim 3, it is noted that when a PDLC material is applied using a coating process, it is necessarily solvent-based in order to make it fluid and coat-able.

As to claim 4, it is well known in the spin coating art to seal the spinner bowl in order to provide a controlled gaseous atmosphere, controlled evaporation, or keep impurities from contaminating the coating. It would have been obvious for one having ordinary skill in the art to have performed the spin coating processes of Bryan in view of Scheu et al. in a closed chamber to increase the process control and for the above-mentioned reasons.

As to claims 5 and 7, it is well known in the spin coating art that the rate of evaporation is controlled by a number of factors including the spin speed, space between the substrate and coater cover, ambient temperature and pressure, type of solvents used, etc. It would have been obvious for one having ordinary skill in the art to have determined the optimum evaporation time through routine experimentation based on all of these factors, in the absence of a showing of criticality or unexpected results.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Harada et al. (US 6,392,725) is cited for its teaching that PDLC layers may be applied by coating processes, including spin coating (col. 13, lines 50-54), and also that the PDLC material may be an emulsion or solvent-based material (col. 13, lines 25-43).

Nishida et al. (US 6,349,086), Decre (US 2001/0018093), and Konishi et al. (US 6,012,858) are cited for their teachings of spin coating apparatus having a collar fixture around the edge of the substrate.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten C Jolley whose telephone number is 571-272-1421. The examiner can normally be reached on Monday to Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P Beck can be reached on 571-272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kirsten C Jolley
Patent Examiner
Art Unit 1762

kcj